

Time to be a Crewmember

U.S. ARMY COMBAT READINESS CENTER

It's an ingrained part of Army culture to teach, coach and mentor new Soldiers. We're taught to take every opportunity to train new warfighters and pass on tactics, techniques and procedures. This is especially true of instructor pilots in Army Aviation, who are taught to maximize the training value in every flight. But when does the instructor hat come off and the crewmember hat go on?

There's a fine line between the two and it depends on the mission. All crewmembers have duties to perform every time an aircraft takes off. Everyone must be an active crewmember first and instructor or trainee second. This lesson was revealed by a recent crash during an AH-64D night aerial gunnery exercise in which both crewmembers were killed and the aircraft destroyed.

What happened?

The crew was well respected within the battalion. Leadership was grooming the IP to become the battalion master gunner. The front seater was a new readiness level 1 pilot on his first aerial gunnery. This crew had flown together often and, during his time in the unit, the copilot-gunner had completed all his RL progression flights with this IP.

All levels of command were closely involved in the crew selection and Composite Risk Management processes, and the gunnery was well thought out and executed. The battalion commander had personally flown the diving rocket engagement with a CW2 front-seat crewmember to validate the safety of the engagement parameters before allowing other crews to conduct the engagement. Despite this risk mitigation, tragedy struck because each crewmember failed to perform their specific tasks as outlined in Aircrew Training Manual TC 1-251.

The crew was on their final engagement for their night table VII when they called the initial point inbound for the engagement. The tower read the script as the targets were brought up. The IP, flying in the backseat as the mission pilot in command, identified the burn barrels used to mark the engagement area at night and then told the CPG to inform the tower they had targets in sight and would call the next phase line. This particular engagement calls for a pilot independent rocket engagement employing the helmet mounted display sight select. The PC instructed the CPG to assist in making adjustments using the target acquisition and designation system.

The PC armed the aircraft at the next phase line. The CPG attempted to use the TADS to acquire the correct target; however, the PC became irritated with the CPG as he attempted to image autotrack multiple targets. The PC reprimanded the CPG for this action and instructed him to use the linear motion compensator to track the target. The PC indicated he had the target and then called the arrival at the next phase line, which was also the start fire line.

The tower cleared the crew for the engagement. The crew, with the PC on the flight controls, initiated a dive to conduct the attack. The crew began the dive at 60 knots airspeed and 1,500 feet altitude. The dive varied between 23 and 28 degrees pitch and reached a maximum airspeed of 150 knots. The CPG called verbal corrections to the PC, indicating the rockets were low and to the left. The PC said the last rocket wouldn't fire and began recovery from the dive.

The PC brought the aircraft's nose up to the horizon before beginning the turn, during which he allowed the angle of bank to reach 80 degrees. While on the controls, the PC directed his attention inside the aircraft to deactivate the rockets and press the ARM/SAFE button to safe the armament system. With his attention focused inside the cockpit and the aircraft in an 80-degree right turn, the nose began to drop, causing the Apache to re-enter a 23-degree dive angle. The CPG also was focused inside the cockpit and directed his attention from the left multipurpose display to the right MPD, where his weapons page was displayed. The CPG then started talking about the rocket that didn't fire and its inventory status.

After completing his tasks inside the aircraft, the PC directed his attention back outside and saw a grove of tall pine trees about 2 to 3 feet in diameter. The aircraft struck the trees about 25 feet above the ground. The aircraft was traveling at 133 knots in a 13-degree nose down attitude and a 33-degree right bank, with a 4,947-foot per minute rate of descent.

Lessons learned

All crewmembers must perform their duties regardless their experience level. According to the AH-64D ATM Task 1422, "Perform Firing Techniques," the crewmember not engaging a weapons system will focus his attention outside the aircraft to assist with obstacle avoidance. The task also states the pilot not on the controls should operate the ARM/SAFE button.

Under the night considerations portion of Task 1422, it's stated that difficulty in determining aircraft altitude and rate of closure and detecting obstacles will increase the aircrew's fatigue level. The crew must use proper scanning techniques to avoid obstacles and prevent spatial disorientation.



In Task 1415, "Perform Diving Flight," the pilot not on the controls will provide adequate warnings to avoid traffic or obstacles detected in the flight path and any deviation from the maneuver parameters. The ATM doesn't excuse a pilot from completing tasks because there's an IP in the cockpit. In addition, the ATM doesn't excuse a PC from adequately distributing the crew workload even though he's an IP as well.

Fly the aircraft! These state-of-the-art aircraft have numerous displays, and pilots can quickly become overwhelmed with information. First and foremost, the pilot on the controls must always remember to fly the aircraft. In this accident, the battalion master gunner emphasized this point when conducting the fire brief. The PC must ensure proper distribution of crew duties throughout the mission to ensure the pilot on the controls doesn't get task saturated.

The PC in this accident could've easily maintained aircraft control and situational awareness if he'd used the three-step safing process described in Task 1422, which states, "The PC will determine the appropriate safe level of the armament systems for the firing method being employed." The critical task for all engagements is maintaining situational awareness and aircraft control. Any one of the three levels below will ensure the weapons system won't fire:

- (1) Weapon trigger switch released
- (2) Weapon action switch deselected
- (3) SAFE/ARM button—SAFE

IPs must ensure copilots perform their respective crew duties, even if it means a degraded level of performance, as long as safety isn't compromised. Instructors tend to pick up duties their students drop, giving the students a false sense of security that lowers their situational awareness and performance. "The IP has it, he'll keep us straight." This line of thinking is dangerous because students sometimes revert to a voice-actuated copilot instead of a functioning crewmember. IPs must be crewmembers first, instructors second. It's a delicate balance that requires good judgment in choosing which role to perform.

Our business is inherently dangerous and even great crews can have a momentary lapse in situational awareness. We must each perform our crew duties to our utmost ability to ensure equitable distribution of workload and safe return after the mission. Engaged leaders are an important part of that crew mix and must take action and stay engaged to train Soldiers to operate safely in very trying conditions. We can change the culture in today's Army given proper planning, attention to detail and the active involvement of the chain of command.